



## ATLANTIC ALLOY HEALTH & EQUIPMENT CORP.

1185 Morris Avenue Suite 205  
Union, New Jersey 07083

Telephone (201) 964-9200  
Fax (201) 964-9224

### COMMERCIAL OPERATING INSTRUCTION MANUAL FOR

CABINET, SOLUTION WARMING  
NSN 6530-01-207-0827 (GENERIC)  
NSN 6530-01-325-3746 (SPECIFIC)  
CONTRACT NO. DLA120-90-C-8547  
ISSUED JULY, 1990  
REVISED OCTOBER 10, 1990

MANUFACTURED BY: PRESTIGE METAL PRODUCTS, INC.  
885 ANITA ST., BOX 700  
ANTIOCH, IL. 60002  
1-708-395-0775

FOR SERIAL NUMBERS 3777-0001 THRU 3777-2000

MANUFACTURED FOR: ATLANTIC ALLOY HEALTH & EQUIPMENT CORP.  
1185 MORRIS AVENUE  
UNION, N.J. 07083  
1-908-964-9200

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### GENERAL INFORMATION

The purpose and the function of this device is to heat and store bottles of solution for use in surgical and medical procedures. The upper compartment is capable of operating between 100 degrees F. and 180 degrees F. by means of an adjustable thermostat. The lower compartment operates at 110 degrees F. and is controlled by a non-adjustable thermostat.

CAPACITY: Upper compartment 20, 2 liter flasks  
Lower compartment, 27" wide x 40" high x 20" deep

PHYSICAL CHARACTERISTIC: 30" wide x 24" deep x 78" high  
300 lbs.

ELECTRIC: 110 volts, 50-60 hz, 6 amps, 1 ph.

### SAFETY PRECAUTIONS

1. DO NOT HEAT UNVENTED OR NON-VENTED OR SEALED FLASKS OR BOTTLES IN UPPER CHAMBER.
2. UNPLUG OR DISCONNECT POWER BEFORE STARTING ANY MAINTENANCE.
3. DO NOT USE THIS CABINET TO HEAT ANY NON-AQUEOUS SOLUTIONS, LOW BOILING POINT SOLUTIONS, FLAMMABLE SOLVENTS OR VEHICLES.

### INSTALLATION

When unpacking unit inspect for damage. Be sure to remove all packing material inside and outside of the cabinet. Adjust shelf clips and install shelves in the lower compartment. Place cabinet where desired and plug into 110 volt a.c. 50-60 hertz outlet. Make sure that unit is level.

### GENERAL THEORY OF OPERATION

The lower storage compartment is electrically heated and is controlled by a concealed thermostat which is set for a temperature of 110 degrees F.  $\pm$  10 degrees F. The lower compartment is equipped with a thermal fuse, non-reset type, which will open if compartment temperature exceeds 157 degrees F.



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The upper heating compartment is electrically heated and is controlled by an adjustable thermostat with a control knob on the outside of the cabinet. The upper compartment can be set to operate from 100 degrees F. to 180 degrees F. The upper compartment is equipped with a fan for air circulation and with an over temp device which will turn off the power and turn on a warning light and buzzer should the temperature exceed 194 degrees F. The overtemp device will automatically reset after the temperature is reduced. If the overtemp light and buzzer alarms are activated, turn the thermostat knob to the off position and unplug the power cord.

### MAINTENANCE AND CLEANING

There are no adjustments that the operator can make except to set the upper compartment thermostat to the desired set point. If the machine should malfunction disconnect the power immediately. Cleaning of the outside and inside can be done with standard soap and water cleaning compounds. Always rub in the direction of the grain, never in circular motions.

### TROUBLESHOOTING

There are no performance checks that the operator can make. All troubleshooting and repairs should be performed by a qualified bio-medical technician.

### ACCESSORIES

None available.

### WARRANTY

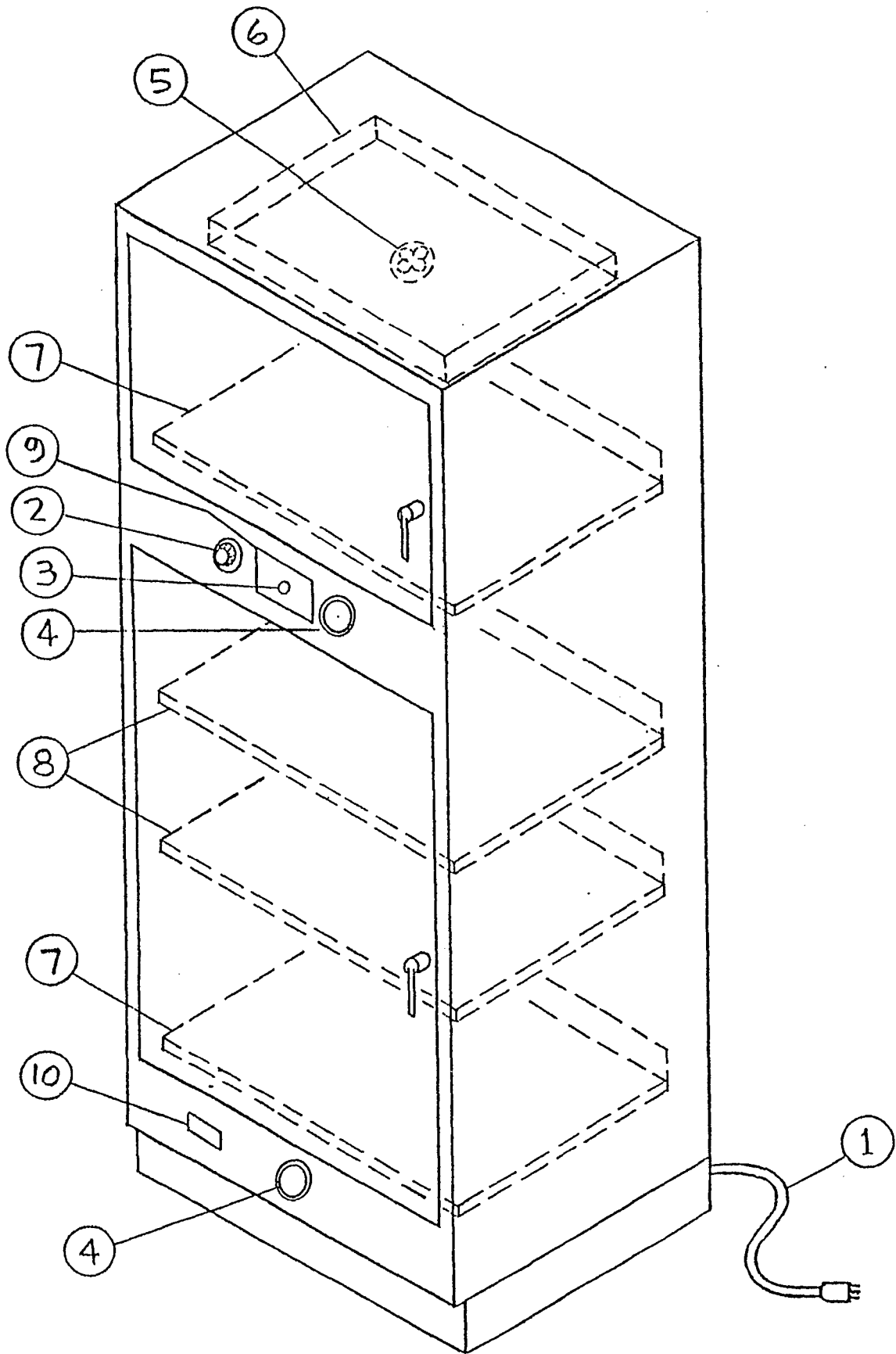
Atlantic Alloy warrants each item of equipment to be of the highest standards of workmanship and materials. Should any equipment show any defects in materials or workmanship within one (1) year of the date of shipment from factory, Atlantic Alloy will be pleased to repair or replace such defective parts, F.O.B. factory. Warranties do not include any labor charges for replacement or repair of defective parts. Warranties do not apply in the event of neglect or abuse of the unit or parts thereof.

### STORAGE

This unit can be stored indoors only if left in its original shipping carton.

NO.	REVISIONS	DATE	BY
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PRESTIGE METAL PRODUCTS, INC.  
ANTIOCH, ILLINOIS



CABINET, SOLUTION WARMING  
NSN 6530-01-207-0827

DRAWING NO.	DESCRIPTION	PAGE	DRAWN BY	DATE	SCALE	JOB NO.	QUANTITY	MATERIAL
3777-821	OF OPERATING MANUAL	4	BK	7/17/90		3777		



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### SOLUTION WARMING CABINET LEGEND

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1.	POWER CORD
2.	UPPER COMPARTMENT ADJUSTABLE THERMOSTAT
3.	UPPER COMPARTMENT OVER TEMPERATURE RED PILOT LIGHT
4.	UPPER AND LOWER COMPARTMENT DIAL THERMOMETERS
5.	UPPER COMPARTMENT CIRCULATION FAN
6.	FAN SHROUD
7.	UPPER AND LOWER COMPARTMENT REMOVABLE BOTTOM SHELVES
8.	LOWER COMPARTMENT ADJUSTABLE SHELVES
9.	OPERATING INSTRUCTIONS
10.	SERIAL NUMBER NAMEPLATE



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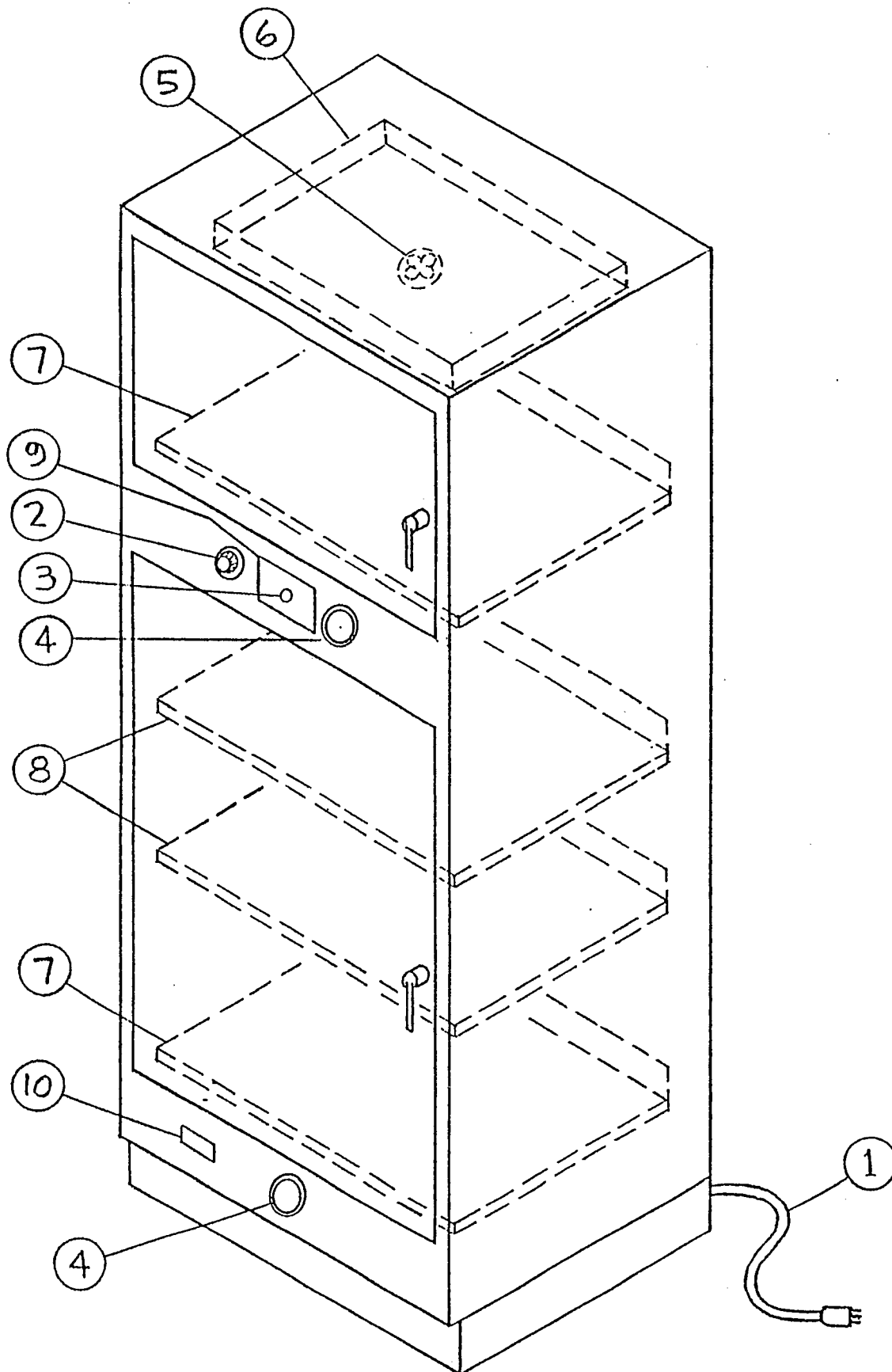
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NSN 6530-01-207-0827



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ELECTRIC: 110 volts, 50-60 hz, 6 amps, 1 ph. or 230 volts, 50-60 hz, 3 amps, 1 ph.

### SAFETY PRECAUTIONS

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### INSTALLATION

When unpacking unit inspect for damage. Be sure to remove all packing material inside and outside of the cabinet. Adjust shelf clips and install shelves in the lower compartment. Place cabinet where desired and plug into 110 volt a.c. 50-60 hertz outlet. Make sure that unit is level.

### GENERAL THEORY OF OPERATION

The lower storage compartment is electrically heated and is controlled by a concealed thermostat which is set for a temperature of 110 degrees F.  $\pm$  10 degrees F. The lower compartment is equipped with a thermal fuse, non-reset type, which will open if compartment temperature exceeds 157 degrees F.

The upper heating compartment is electrically heated and is controlled by an adjustable thermostat with a control knob on the outside of the cabinet. The upper compartment can be set to operate from 100 degrees F. to 180 degrees F. The upper compartment is equipped with a fan for air circulation and with an over temp device which will turn off the power and turn on a warning light and buzzer should the temperature exceed 194 degrees F. The overtemp device will automatically reset after the temperature is reduced. If the overtemp light and buzzer alarms are activated, turn the thermostat knob to the off position and unplug the power cord.

STARTING, OPERATING AND STOPPING UNIT

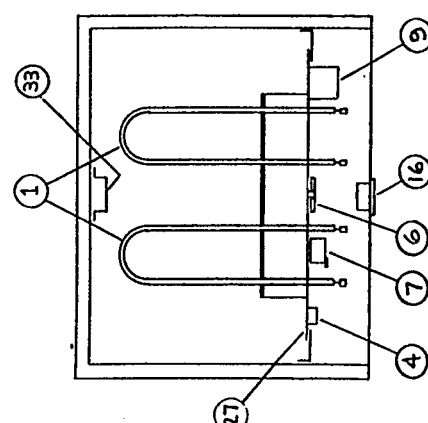
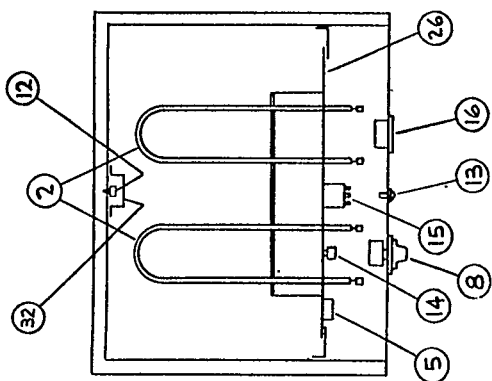
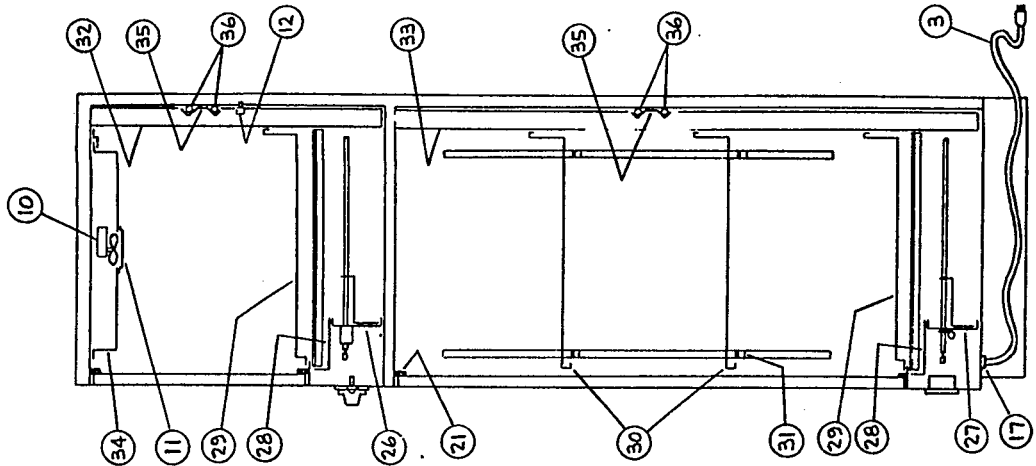
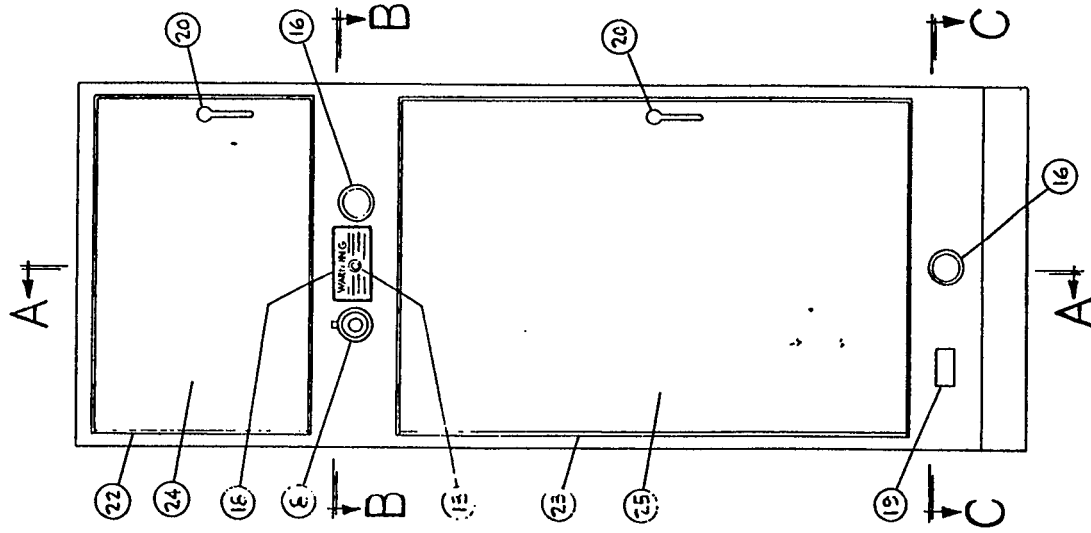
1. REMOVE OUTER CARTON, SKID AND POLYBAG.
2. OPEN UPPER COMPARTMENT DOOR AND REMOVE PACKING MATERIALS.
3. OPEN LOWER COMPARTMENT DOOR AND REMOVE PACKING MATERIAL FROM ADJUSTABLE SHELVES AND ADJUST SHELVES TO DESIRED POSITION.
4. PLUG UNIT INTO 110 VAC, 50-60 HZ ELECTRIC POWER SOURCE OR CONVERT UNIT TO 230 VOLT, 50-60 HZ PER INSTRUCTIONS AND CONNECT TO 230 VAC POWER.
5. ADJUST UPPER COMPARTMENT TO DESIRED TEMPERATURE BY TURNING THE THERMOSTAT KNOB TO DESIRED SET POINT.
6. THE LOWER COMPARTMENT HAS A FIXED THERMOSTAT AND COMES ON WHEN THE UNIT IS PLUGGED IN.
7. THE UNIT IS NOW READY FOR USE.
8. THE UPPER HEATING COMPARTMENT CAN BE SHUT OFF BY TURNING THE THERMOSTAT KNOB TO THE "OFF" POSITION.
9. THE LOWER HOLDING COMPARTMENT AND THE ENTIRE UNIT CAN BE TURNED OFF BY REMOVING THE PLUG FROM POWER SOURCE.

DESCRIPTION OF ELECTRICAL CIRCUITS

1. The lower compartment contains two 75 watt heating elements which are connected in parallel for 110 volts and connected in series when converted to 230 volts. These heaters are controlled by a fixed thermostat which is factory set to cutoff at 110 degrees F.  $\pm$  10 degrees F. The thermostat is wired in series with a one-time thermal fuse rated at 157 degrees F.
2. The upper compartment contains two 300 watt heating elements which are connected in parallel for 110 volts and connected in series when converted to 230 volts. The heaters are controlled by an adjustable thermostat through a relay switch. If the compartment exceeds 192 degrees F., the overtemp switch will open, which de-energizes the relay; which in turn shuts the heaters off and turns an overtemp buzzer and light on. The buzzer and light remain on until the temperature drops low enough for the overtemp switch to automatically reset. The upper compartment also has a circulating fan that runs continuously.



NOTE: LEVEL UNIT WHEN INSTALLING





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4.	3777-803	TERMINAL BLOCK, 2 POLE	1
5.	3777-803	TERMINAL BLOCK, 2 POLE	1
6.	3777-805	THERMAL FUSE, 157 DEGREES F.	1
7.	3777-806	THERMOSTAT, FIXED	1
8.	3777-807	THERMOSTAT, ADJUSTABLE, WITH BEZEL AND KNOB	1
9.	3777-808	TRANSFORMER	1
10.	3777-809	FAN AND MOTOR ASSEMBLY	1
11.	3777-810	FAN GUARD	1
12.	3777-811	OVERTEMP SWITCH	1
13.	3777-812	OVERTEMP PILOT LIGHT, RED	1
14.	3777-813	OVERTEMP BUZZER	1
15.	3777-814	RELAY	1
16.	3777-815	THERMOMETER, DIAL WITH BULB	2
17.	3777-816	STRAIN RELIEF BUSHING	1
18.	3777-819	OVER TEMP WARNING DECAL	1
19.	3777-820	SERIAL NUMBER NAMEPLATE	1
	3777-821	OPERATING MANUAL (NOT SHOWN)	2
	3777-822	MAINTENANCE MANUAL (NOT SHOWN)	2
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21.	3777-828	DOOR GASKET	2
22.	3777-829	DOOR HINGE, UPPER	1
23.	3777-830	DOOR HINGE, LOWER	1
24.	3777-UD	UPPER DOOR ASSEMBLY	1
25.	3777-LD	LOWER DOOR ASSEMBLY	1
26.	3777-UE	UPPER COMPARTMENT ELECTRIC PANEL	1
27.	3777-LE	LOWER COMPARTMENT ELECTRIC PANEL	1
28.	3777-CG	ELECTRIC PANEL TOP	2
29.	3777-L	REMOVABLE BOTTOM SHELF	2
30.	3777-AG	LOWER COMPARTMENT ADJUSTABLE SHELF	2
31.	3777-831	LOWER COMPARTMENT ADJUSTABLE SHELF SUPPORT CLIP	8
32.	3777-CL	UPPER COMPARTMENT WIRE WAY	1
33.	3777-CL	LOWER COMPARTMENT WIRE WAY	1
34.	3777-CN	FAN SHROUD	1
35.	3777-AA	THERMOSTAT AND THERMOMETER BULB CLIP	2
36.	FOR REFERENCE ONLY: THERMOSTAT AND THERMOMETER SENSING BULBS		



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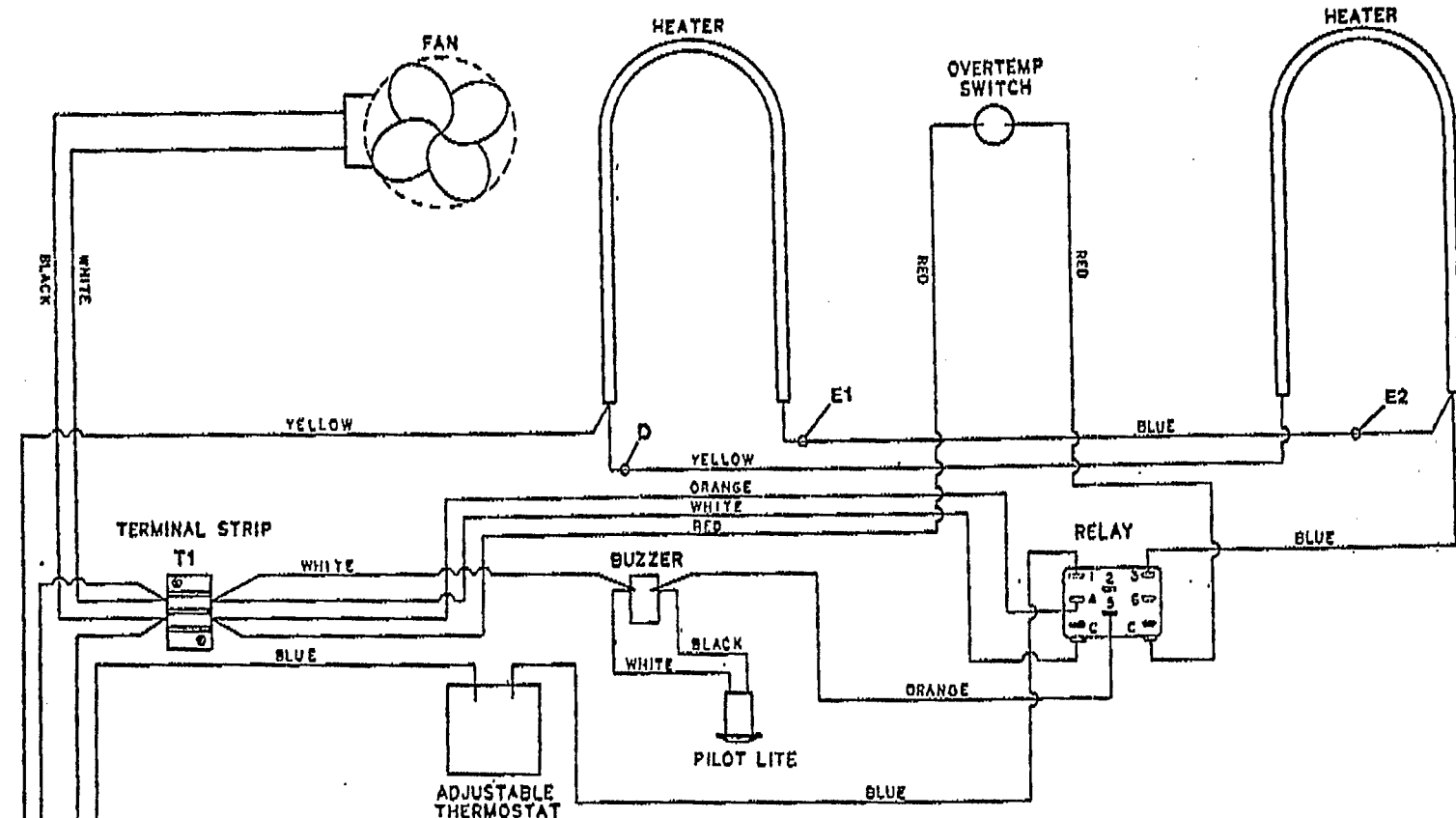
### MAINTENANCE

The majority of the electrical components are located in the bottom of each compartment underneath the removable bottom shelf, item 29.

Troubleshooting guidelines are:

1. NO HEAT
  - A. Check power supply
  - B. Check thermostat items 7 or 8 switch. It should be closed.
  - C. Check thermal fuse item 6 in lower compartment.
  - D. Check heaters items 1 & 2 for continuity.
2. Erratic heat in upper compartment
  - A. Check fan
3. Overtemp alarm buzzer and warning light come on.
  - A. Check and recalibrate thermostat
  - B. Check fan
4. Thermostat out of calibration
  - A. Make sure bulb is properly mounted in clip item 35 on rear inside wall.
  - B. Recalibrate by turning thermostat knob to highest position (clockwise) then remove knob. With a small screw driver, turn set screw inside the hollow shaft: Counterclockwise to raise temperature, clockwise to lower temperature.

DO NOT SET HIGHER THAN 180 DEGREES F.



## UPPER COMPARTMENT

WIRING SHOWN IS FOR 110 VAC, 50-60 HERTZ/1 PH

TO CONVERT TO 230 VOLT, 50-60 HERTZ/1 PH, PERFORM THE FOLLOWING OPERATIONS:

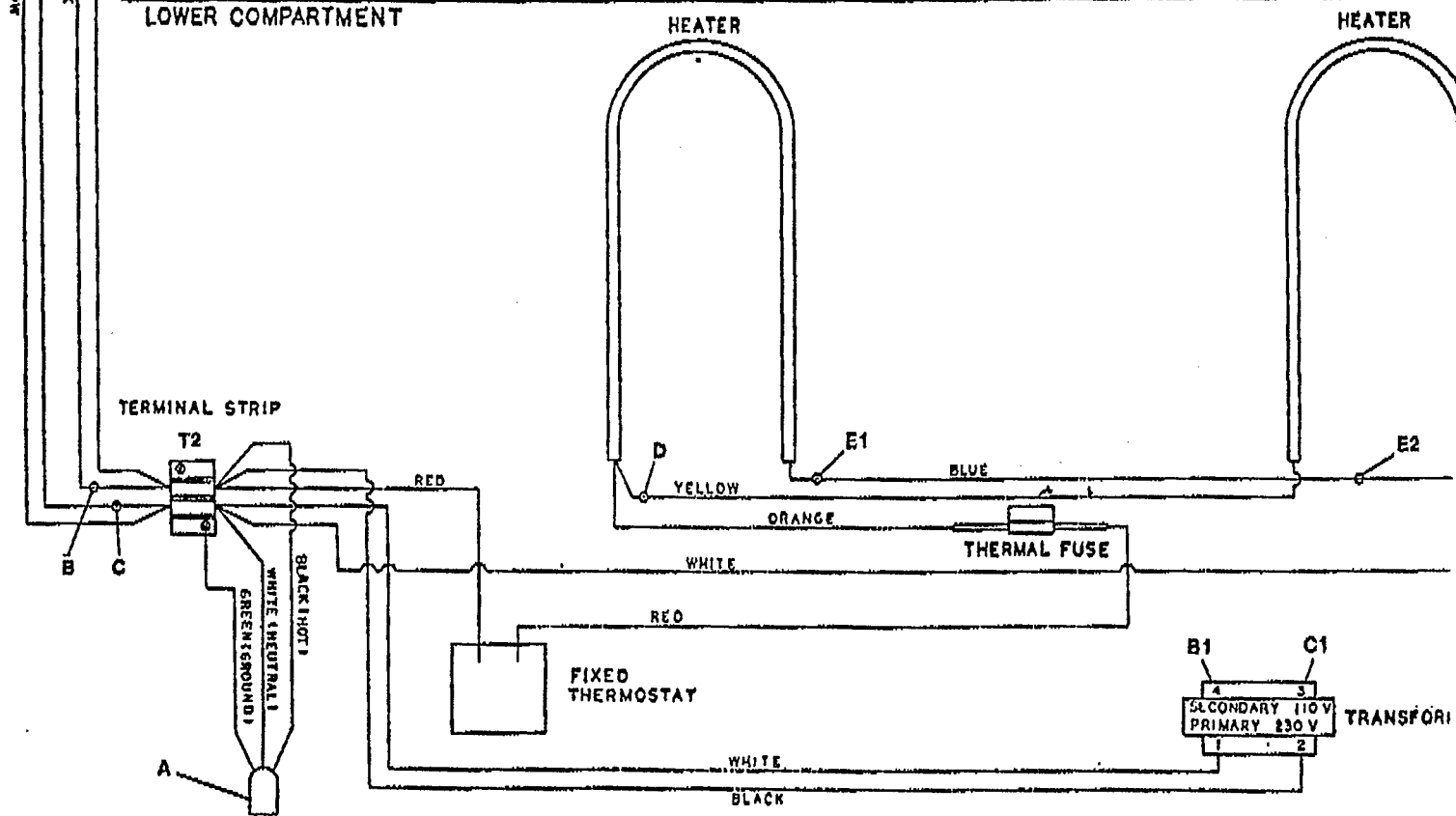
1. REMOVE PLUG A FROM CORD
2. MOVE BLACK WIRE B AND WHITE WIRE C FROM T2 TERMINAL BLOCK TO THE SECONDARY OF THE TRANSFORMER TERMINALS B1 AND C1.

3. IN BOTH UPPER AND LOWER COMPARTMENTS, HEATERS MUST BE HOOKED IN SERIES AS FOLLOWS:

- DISCONNECT BLUE WIRE FROM TERMINALS E1 AND E2
- DISCONNECT YELLOW WIRE FROM TERMINAL D AND CONNECT TO TERMINAL E1.

4. CONNECT CORD A TO 230 VAC SOURCE.

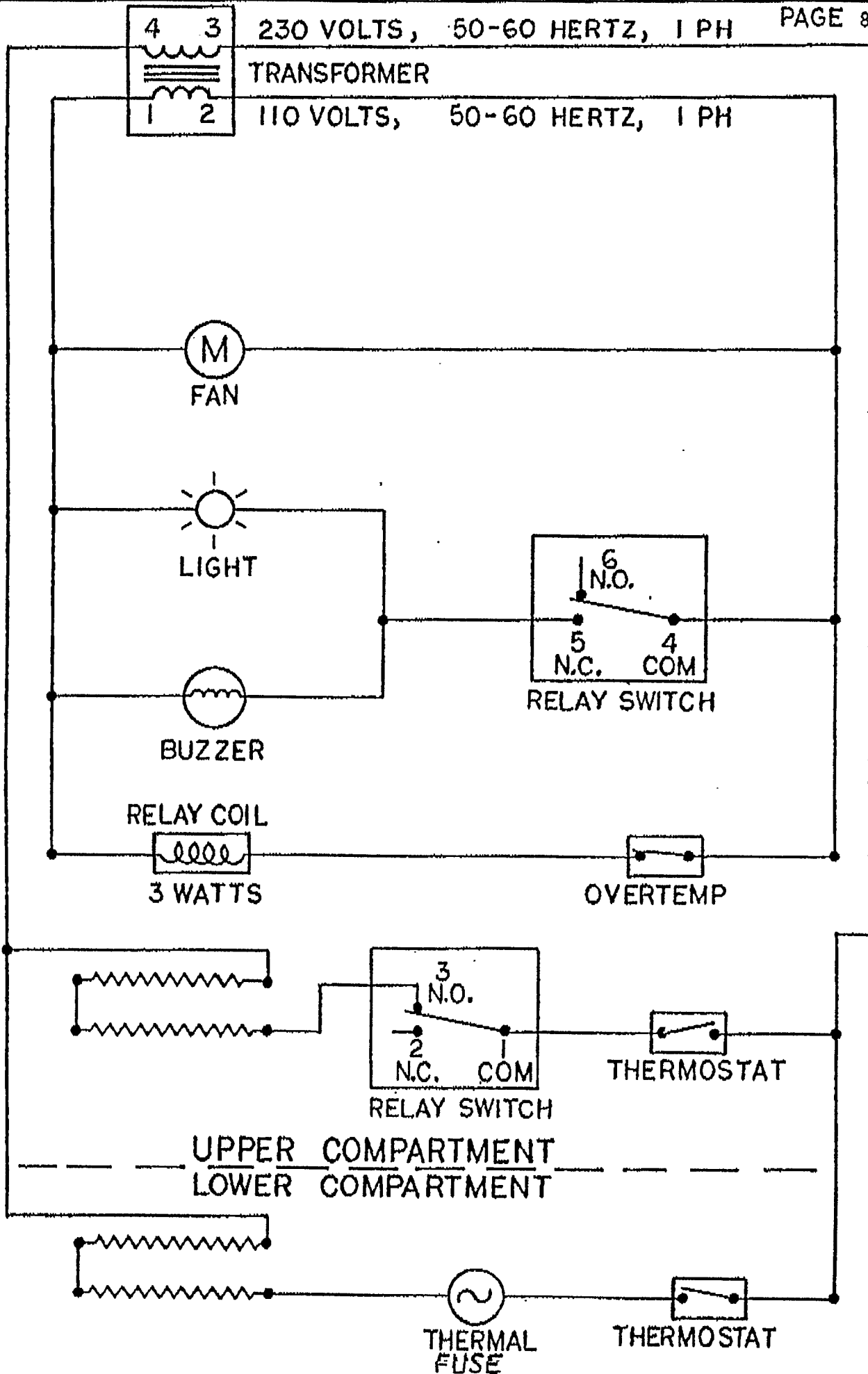
## LOWER COMPARTMENT



230 VOLTS, 50-60 HERTZ, 1 PH

TRANSFORMER

110 VOLTS, 50-60 HERTZ, 1 PH



DRAWING NO.  
3777-501

DESCRIPTION  
WIRING-230 VOLTS

DRAWN BY  
B.D.

DATE  
10-9-90

SCALE  
N/A

JOB NO.

QUANTITY

MATERIAL

N/A

DRAWING NO. 3777-500  
DESCRIPTION WIRING - 110 VOLTS

DRAWN BY B.D.

DATE 10-9-90

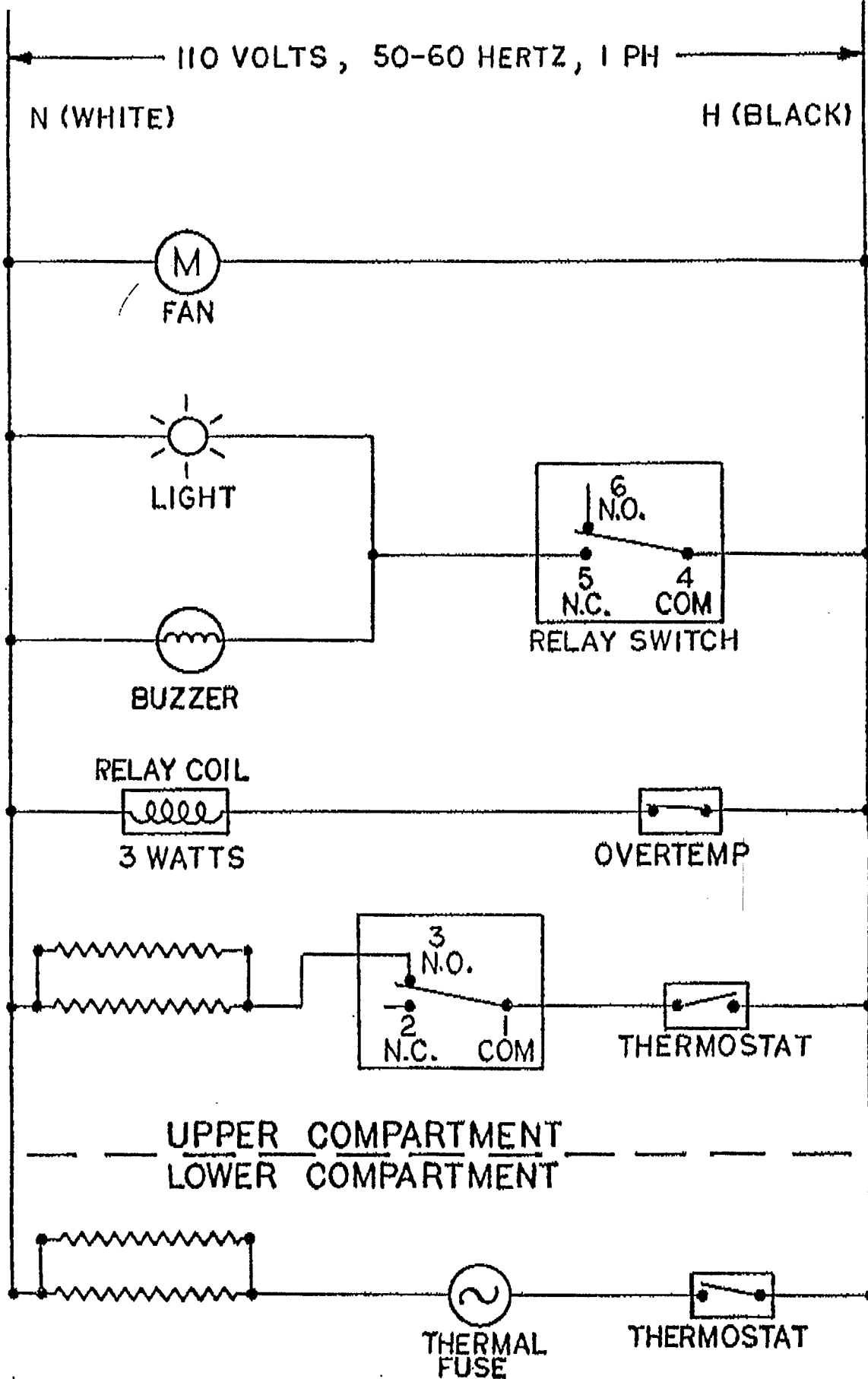
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### INSTALLATION

When unpacking unit inspect for damage. Be sure to remove all packing material inside and outside of the cabinet. Adjust shelf clips and install shelves in the lower compartment. Place cabinet where desired and plug into 110 volt a.c. 50-60 hertz outlet. Make sure that unit is level.

### GENERAL THEORY OF OPERATION

The lower storage compartment is electrically heated and is controlled by a concealed thermostat which is set for a temperature of 110 degrees F.  $\pm$  10 degrees F. The lower compartment is equipped with a thermal fuse, non-reset type, which will open if compartment temperature exceeds 157 degrees F.

The upper heating compartment is electrically heated and is controlled by an adjustable thermostat with a control knob on the outside of the cabinet. The upper compartment can be set to operate from 100 degrees F. to 180 degrees F. The upper compartment is equipped with a fan for air circulation and with an over temp device which will turn off the power and turn on a warning light and buzzer should the temperature exceed 194 degrees F. The overtemp device will automatically reset after the temperature is reduced. If the overtemp light and buzzer alarms are activated, turn the thermostat knob to the off position and unplug the power cord.

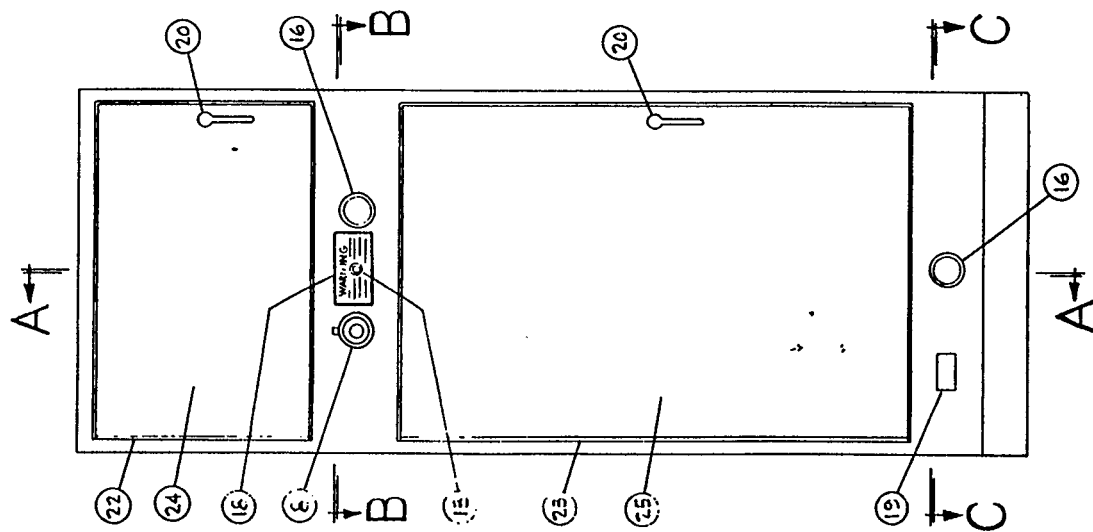
STARTING, OPERATING AND STOPPING UNIT

1. REMOVE OUTER CARTON, SKID AND POLYBAG.
2. OPEN UPPER COMPARTMENT DOOR AND REMOVE PACKING MATERIALS.
3. OPEN LOWER COMPARTMENT DOOR AND REMOVE PACKING MATERIAL FROM ADJUSTABLE SHELVES AND ADJUST SHELVES TO DESIRED POSITION.
4. PLUG UNIT INTO 110 VAC, 50-60 HZ ELECTRIC POWER SOURCE OR CONVERT UNIT TO 230 VOLT, 50-60 HZ PER INSTRUCTIONS AND CONNECT TO 230 VAC POWER.
5. ADJUST UPPER COMPARTMENT TO DESIRED TEMPERATURE BY TURNING THE THERMOSTAT KNOB TO DESIRED SET POINT.
6. THE LOWER COMPARTMENT HAS A FIXED THERMOSTAT AND COMES ON WHEN THE UNIT IS PLUGGED IN.
7. THE UNIT IS NOW READY FOR USE.
8. THE UPPER HEATING COMPARTMENT CAN BE SHUT OFF BY TURNING THE THERMOSTAT KNOB TO THE "OFF" POSITION.
9. THE LOWER HOLDING COMPARTMENT AND THE ENTIRE UNIT CAN BE TURNED OFF BY REMOVING THE PLUG FROM POWER SOURCE.

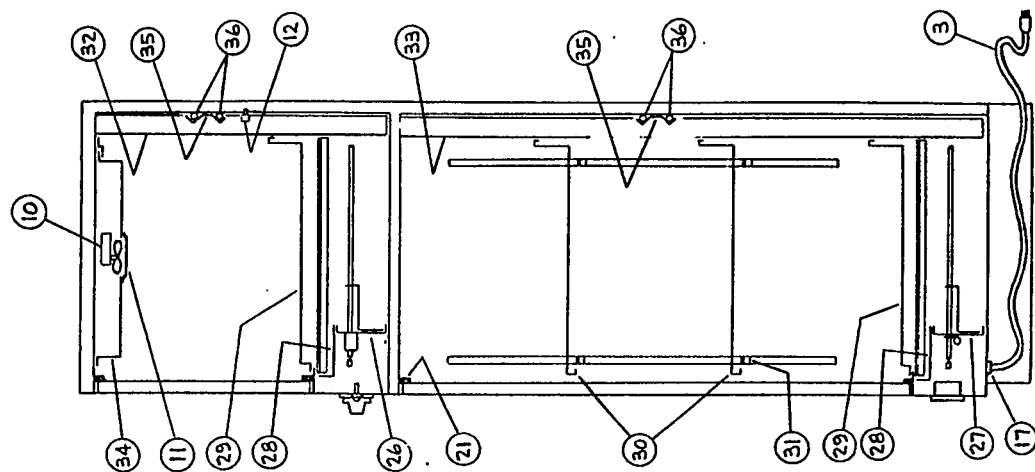
DESCRIPTION OF ELECTRICAL CIRCUITS

1. The lower compartment contains two 75 watt heating elements which are connected in parallel for 110 volts and connected in series when converted to 230 volts. These heaters are controlled by a fixed thermostat which is factory set to cutoff at 110 degrees F.  $\pm$  10 degrees F. The thermostat is wired in series with a one-time thermal fuse rated at 157 degrees F.
2. The upper compartment contains two 300 watt heating elements which are connected in parallel for 110 volts and connected in series when converted to 230 volts. The heaters are controlled by an adjustable thermostat through a relay switch. If the compartment exceeds 192 degrees F., the overtemp switch will open, which de-energizes the relay; which in turn shuts the heaters off and turns an overtemp buzzer and light on. The buzzer and light remain on until the temperature drops low enough for the overtemp switch to automatically reset. The upper compartment also has a circulating fan that runs continuously.

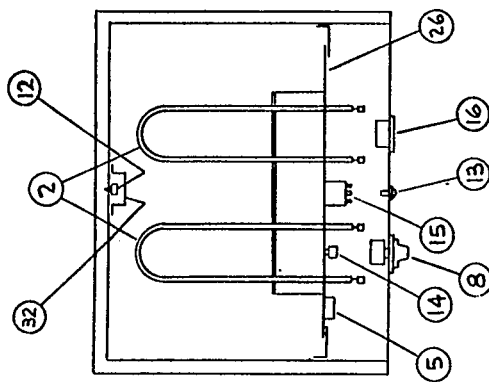
NOTE: LEVEL UNIT WHEN INSTALLING



FRONT VIEW

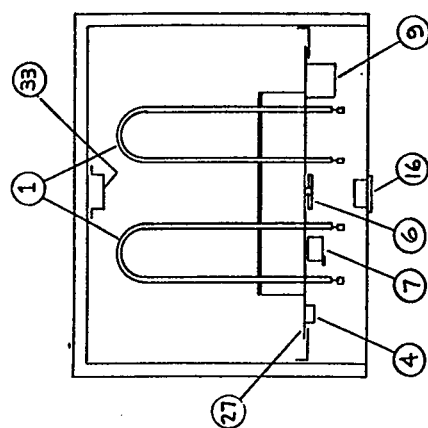


SECTION A-A



SECTION B-B

UPPER ELECTRICAL COMPARTMENT



SECTION C-C

LOWER ELECTRICAL COMPARTMENT



## ATLANTIC ALLOY HEALTH & EQUIPMENT CORP.

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Union, New Jersey 07083

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INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSEMBLY
1.	3777-800	HEATER, TUBULAR, 150 WATT, LOWER COMPARTMENT	2
2.	3777-801	HEATER, TUBULAR, 600 WATT, UPPER COMPARTMENT	2
3.	3777-802	POWER CORD	1
4.	3777-803	TERMINAL BLOCK, 2 POLE	1
5.	3777-803	TERMINAL BLOCK, 2 POLE	1
6.	3777-805	THERMAL FUSE, 157 DEGREES F.	1
7.	3777-806	THERMOSTAT, FIXED	1
8.	3777-807	THERMOSTAT, ADJUSTABLE, WITH BEZEL AND KNOB	1
9.	3777-808	TRANSFORMER	1
10.	3777-809	FAN AND MOTOR ASSEMBLY	1
11.	3777-810	FAN GUARD	1
12.	3777-811	OVERTEMP SWITCH	1
13.	3777-812	OVERTEMP PILOT LIGHT, RED	1
14.	3777-813	OVERTEMP BUZZER	1
15.	3777-814	RELAY	1
16.	3777-815	THERMOMETER, DIAL WITH BULB	2
17.	3777-816	STRAIN RELIEF BUSHING	1
18.	3777-819	OVER TEMP WARNING DECAL	1
19.	3777-820	SERIAL NUMBER NAMEPLATE	1
	3777-821	OPERATING MANUAL (NOT SHOWN)	2
	3777-822	MAINTENANCE MANUAL (NOT SHOWN)	2
20.	3777-827	DOOR HANDLE ASSEMBLY	2
21.	3777-828	DOOR GASKET	2
22.	3777-829	DOOR HINGE, UPPER	1
23.	3777-830	DOOR HINGE, LOWER	1
24.	3777-UD	UPPER DOOR ASSEMBLY	1
25.	3777-LD	LOWER DOOR ASSEMBLY	1
26.	3777-UE	UPPER COMPARTMENT ELECTRIC PANEL	1
27.	3777-LE	LOWER COMPARTMENT ELECTRIC PANEL	1
28.	3777-CG	ELECTRIC PANEL TOP	2
29.	3777-L	REMOVABLE BOTTOM SHELF	2
30.	3777-AG	LOWER COMPARTMENT ADJUSTABLE SHELF	2
31.	3777-831	LOWER COMPARTMENT ADJUSTABLE SHELF SUPPORT CLIP	8
32.	3777-CL	UPPER COMPARTMENT WIRE WAY	1
33.	3777-CL	LOWER COMPARTMENT WIRE WAY	1
34.	3777-CN	FAN SHROUD	1
35.	3777-AA	THERMOSTAT AND THERMOMETER BULB CLIP	2
36.	FOR REFERENCE ONLY: THERMOSTAT AND THERMOMETER SENSING BULBS		



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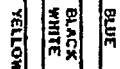
### MAINTENANCE

The majority of the electrical components are located in the bottom of each compartment underneath the removable bottom shelf, item 29.

Troubleshooting guidelines are:

1. NO HEAT
  - A. Check power supply
  - B. Check thermostat items 7 or 8 switch. It should be closed.
  - C. Check thermal fuse item 6 in lower compartment.
  - D. Check heaters items 1 & 2 for continuity.
2. Erratic heat in upper compartment
  - A. Check fan
3. Overtemp alarm buzzer and warning light come on.
  - A. Check and recalibrate thermostat
  - B. Check fan
4. Thermostat out of calibration
  - A. Make sure bulb is properly mounted in clip item 35 on rear inside wall.
  - B. Recalibrate by turning thermostat knob to highest position (clockwise) then remove knob. With a small screw driver, turn set screw inside the hollow shaft: Counterclockwise to raise temperature, clockwise to lower temperature.

DO NOT SET HIGHER THAN 180 DEGREES F.

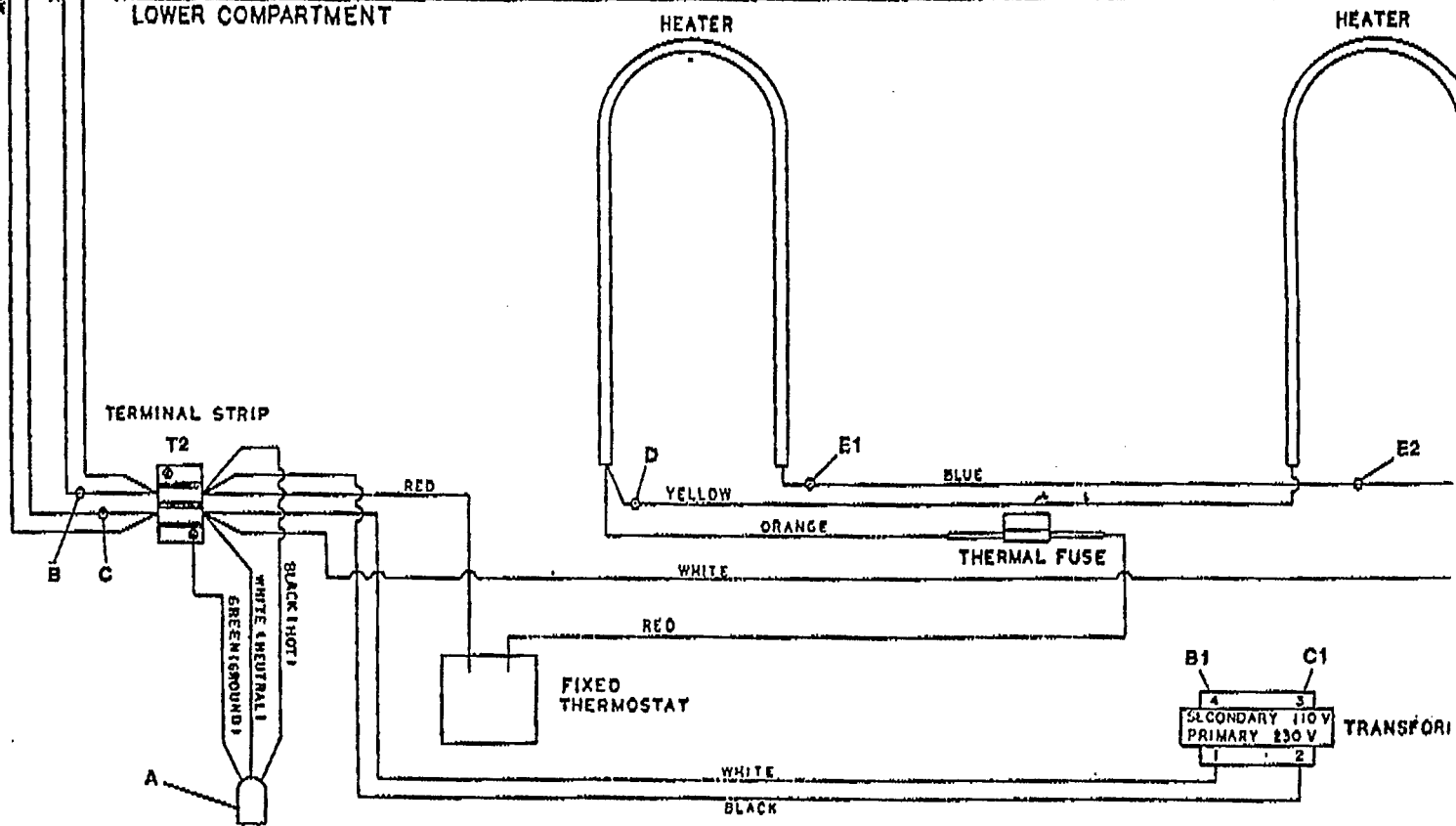


WIRING SHOWN IS FOR 110 VAC, 50-60 HERTZ/1 PH

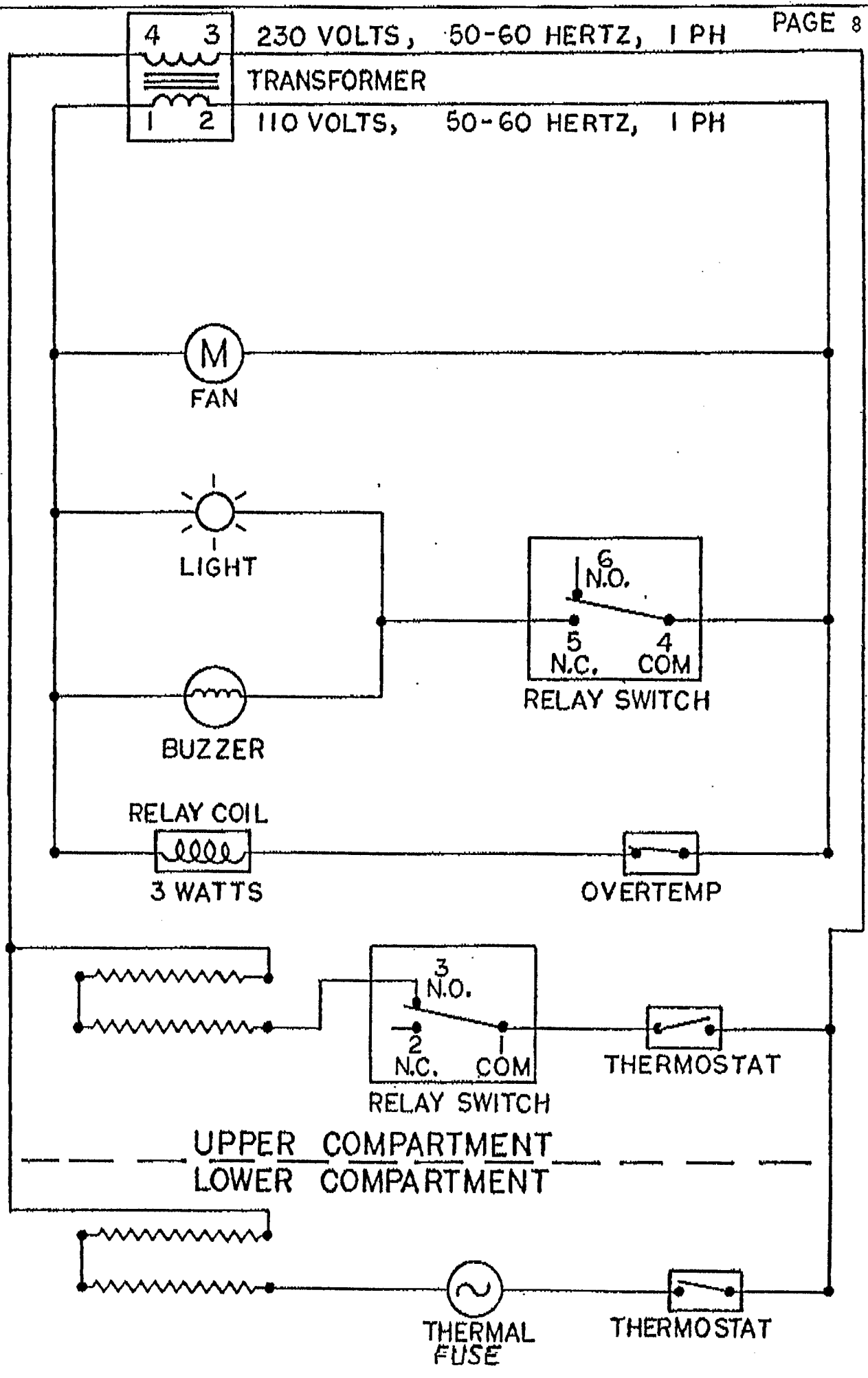
3. IN BOTH UPPER AND LOWER COMPARTMENTS, HEATERS MUST BE HOOKED IN SERIES AS FOLLOWS:

- DISCONNECT BLUE WIRE FROM TERMINALS E1 AND E2  
DISCONNECT YELLOW WIRE FROM TERMINAL D AND  
CONNECT TO TERMINAL E1.
4. CONNECT CORD A TO 230 VAC SOURCE.

**BLUE**  
**BLACK**  
**WHITE**  
**YELLOW**



230 VOLTS, 50-60 HERTZ, 1 PH  
TRANSFORMER  
110 VOLTS, 50-60 HERTZ, 1 PH



DRAWING NO.	DESCRIPTION	DRAWN BY	DATE	SCALE	JOB NO.	QUANTITY	MATERIAL
3777-501	DIAGRAM, WIRING-230 VOLTS	B.D.	10-9-90	N/A			N/A

NO.	REVISIONS	DATE

DRAWING NO. 3777-500  
DESCRIPTION DIAGRAM  
WIRING - 110 VOLTS

DRAWN BY B.D.

DATE 10-9-90

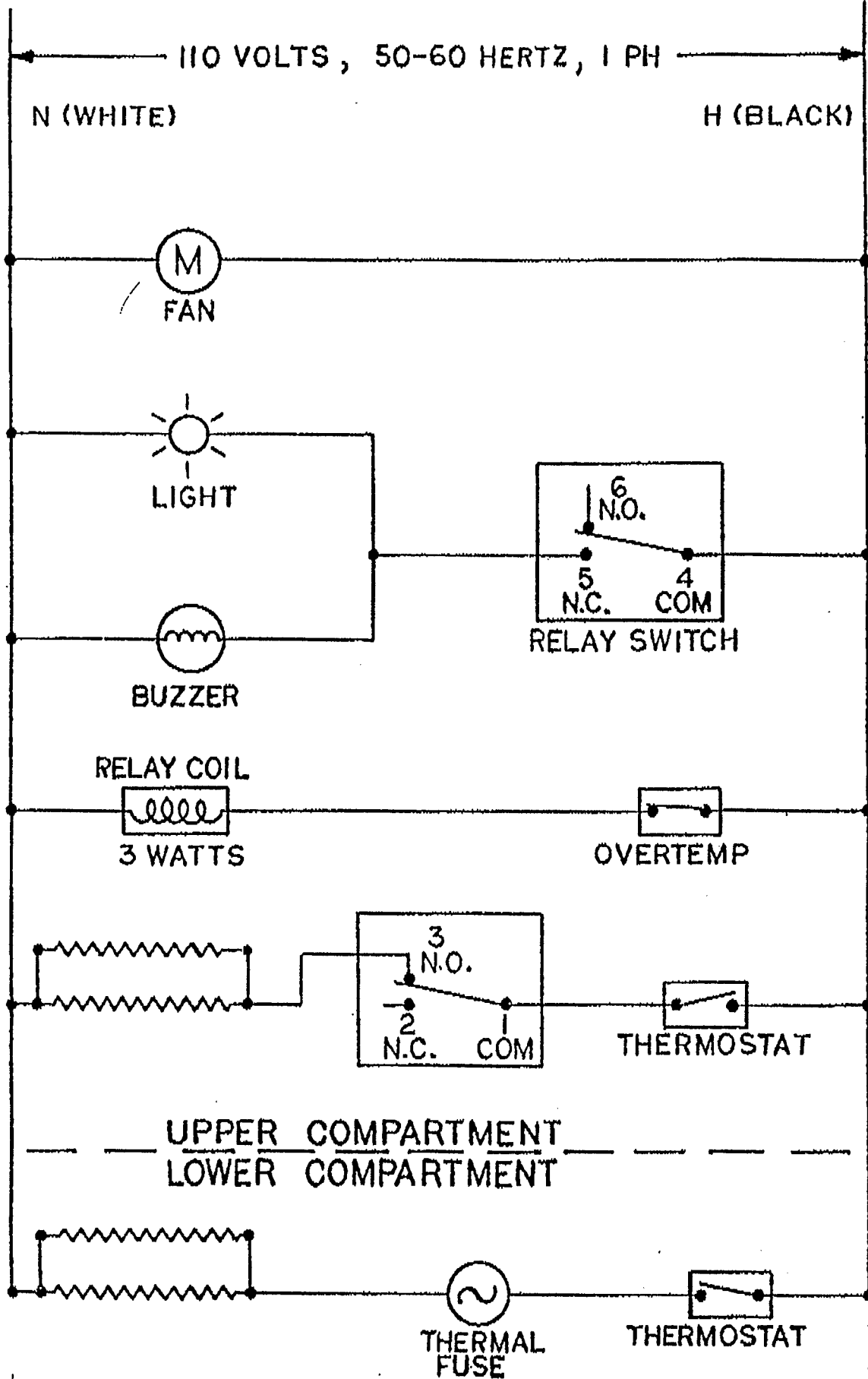
SCALE N/A

JOB NO.

QUANTITY

MATERIAL

N/A



NO.

REVISIONS

DATE

BY